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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/462,067 01/05/00 FURUKAWA

M P18520

EXAMINER

007055

QM02/0524

GREENBLUM & BERNSTEIN
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RESTON VA 20191

PAIK, S	
ART UNIT	PAPER NUMBER

3742

DATE MAILED:

05/24/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/462,067

Applicant(s)

FURUKAWA ET AL.

Examiner

Sang Y Paik

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-- Th MAILING DATE of this communication app ars on the cov r sh t with the correspondence addr ss --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 8-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

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DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I (claims 1-13) in Paper No. 7 is acknowledged. The traversal is on the ground(s) that there is no "serious burden" on the examiner since there appears a substantial degree of overlap of search areas between the claims. This is not found persuasive because the "serious burden" is evidenced by the fact that each of the restricted groups have acquired a separate status in the art by their different classification. Some of the search areas may overlap. However, just because the search areas may overlap does not mean that there is no "serious burden" on the examiner since each group of the inventions define a subject matter that is patentably distinct which requires separate independent examination. Each of the indicated field of search is individually and exclusively pertinent to its own subject matter. Claims 14 and 15 calls for printing and sintering an electrically conductive paste which is not claimed and necessary for the Patentability distinction in claims 1 and 9; and claim 19 calls for an conductive paste which has been shown to make other useful product than the final product of the claimed invention. These showings indicate independent patentable subject matters requiring a separate and independent examination exclusive from each other which would be "serious burden" to examiner if required to examine all three patentably distinct claims.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 14-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim.

Applicant timely traversed the restriction (election) requirement in Paper No. 7.

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3. Furthermore, in accordance with the election requirement of patentably distinct species, the applicant has elected Fig 2. Claims 2, 8, 9-13 are further withdrawn from consideration since they do not read on the elected species which does not show having the heating element embedded inside the ceramic substrate.

Specification

4. The abstract of the disclosure is objected to because the abstract contains two paragraphs. The abstract should be in single paragraph. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 5, there is no proper antecedent basis for "the metal particles".

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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9. Claims 1 and 3-6 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Okuda et al (US 4,804,823).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okuda et al (US 4,804,823).

Okuda et al discloses all the structure claimed including an aluminum nitride substrate, a heating body composed of a sintered body of metal particles such as TiN and a metal oxide such as alumina or magnesia or metal particles such as tungsten carbide, and a non-oxidizing metal layer such as Ni covering the heating body (see column 7, lines 16-22).

However, Okuda et al does not show that the heating body has a sectional shape of the claimed ratio. But Okuda et al teaches that the sectional area and length of the heat generating resistor layer are changed according to the desired resistance value (see column 5, lines 1-3). It would have been obvious to one of ordinary skill in the to change the ratio of the sectional area within the claimed range to achieve the desired resistance value for generating a desired heating temperature.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Following prior art shows ceramic heater: Arami et al (US 5,904,872), Mizuno et al

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(US 5,766,363), Kimura (US 5,331,134), Maeda et al (US 5,233,166), Demin (US 5,252,809) and Kojima et al (US 4,733,056).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Y Paik whose telephone number is 703-308-1147. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teresa Walberg can be reached on 703 308 1327. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3463 for regular communications and 703-305-3463 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0861.

S. Paik

Sang Y Paik
Primary Examiner
Art Unit 3742

syp
May 22, 2001